

B1

- (i) deposit the fluid composition of solid activator separate from and preceding deposition of the biomonomer;
- (ii) allow sufficient time for evaporation to leave solid activator at the region; and
- (iii) then deposit the biomonomer.

30. (AMENDED) An apparatus according to claim 29 wherein the deposition system comprises multiple pulse jets which can dispense droplets of the different biomonomer fluid compositions and at least one pulse jet which can separately dispense the activator fluid composition, each jet comprising: a chamber with an orifice; and an ejector which, when activated, causes a droplet to be ejected from the orifice.

31. (AMENDED) An apparatus for fabricating an addressable array of biopolymers on a substrate according to a target pattern, comprising:
(a) a deposition system which can separately dispense onto a substrate, fluid compositions of different biomonomers each with a first linking group which must be activated for linking to a substrate bound moiety, and a fluid composition of a solid activator; and
(b) a processor to operate the deposition system, which processor derives from the target array pattern a target drive pattern for operating the deposition system to form the array, the target drive pattern comprising instructions to the deposition system to deposit the fluid composition of solid activator at each region at which a biomonomer is to be deposited, separate from and preceding deposition of the biomonomer;
wherein the deposition system comprises multiple pulse jets which can dispense droplets of the different biomonomer fluid compositions and at least one pulse jet which can separately dispense the activator fluid composition, each jet comprising: a chamber with an orifice; and an ejector which, when activated, causes a droplet to be ejected from the orifice; and
wherein the target drive pattern comprises ejector instructions such that a droplet of biomonomer fluid composition deposited at a region will cover an area greater than that covered by a preceding droplet of activator fluid composition at the same region.

B7
32. (AMENDED) A computer program product, for use on an apparatus for fabricating an addressable array of biopolymer probes on a substrate according to a target array pattern, the program product comprising: a computer readable storage medium having a computer program stored thereon which, when loaded into a computer of the apparatus performs the steps of:

deriving from the target array pattern a target drive pattern for operating a deposition system of the apparatus to form the array, the target drive pattern comprising instructions to the deposition system to perform the following at each of multiple regions at which a biomonomer is to be deposited:

- (i) deposit the fluid composition of solid activator separate from and preceding deposition of the biomonomer;
- (ii) allow sufficient time for evaporation to leave solid activator at the region; and
- (iii) then deposit the biomonomer.

33. (AMENDED) A computer program product according to claim 32 wherein the target drive pattern comprises instructions to the deposition system to deposit sufficient biomonomer fluid composition at a region which will cover an area greater than that covered by a preceding droplet of activator fluid composition at the same region.

B7
34. (NEW) An apparatus according to claim 29 wherein the processor derives a target drive pattern which repeats (i) to (iii) at each of multiple features.

35. (NEW) An apparatus according to claim 29 wherein the deposition system comprises a head having multiple pulse jets which can dispense droplets of the different biomonomer fluid compositions.